

Domin and Daneš in Java and Australia 1909–1910

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Abstract

Karel Domin, a botanist, and Jíří Daneš, a geologist, travelled to Australia from Czechoslovakia by way of Java and Ceylon in the years 1909 and 1910. This paper gives information on their itineraries while in Java and Australia.

Voyage to Java

After thorough preparation Karl Domin (Fig. 1) and Jíří Daneš set out in 1909 for an expedition to Java and Australia which was to last for 15 months. They left Czechoslovakia on 25 July 1909 sailing via Port Said. On arrival in Bombay on 18 August they went on a three-day excursion to Hyderabad (Ellory). From Bombay they travelled to Colombo arriving on 28 August. They then travelled via Penang to Singapore where they spent 13 days before travelling on to Sumatra.

Three months in Java

They arrived in Java on 10 September. Daneš devoted himself to the investigation of the limestone regions on the central southern coast of Java. On 15 September Daneš went on to Djokjakarta and after three preliminary excursions in the area left for Wonosari. Domin, meanwhile studied the renowned Botanical Gardens of Buitenzorg, south of Batavia, and the vegetation throughout the island of Java.

Both Domin and Daneš set up their headquarters in Buitenzorg as it had a healthier climate than Batavia and was where the seat of the Governor-General was. As Malay was generally spoken throughout the whole of the Indonesian Archipelago, both learnt sufficient Malay to be understood.

On 17 October they left by rail to Tjandjoer, then by wagon to Sindanglaj and then on foot, with a couple of carriers, up the side of the volcano Panggerango to the rim of its ruined crater at 3,030 m. They also ascended a neighbouring volcano, Gadah, which had a more recent crater.

On 31 October they began an excursion into the volcanic region east of Buitenzorg and ascended the Tangkoeban, which had a small boiling lake, and Papandajan with a huge crater at 2,600 m.

In the latter half of November Domin and Daneš crossed central and eastern Java and made another difficult tour into the volcanic mountains of Tengger. They crossed the country at the foot of the highest Javanese volcano, Semeroe (3,676 m), which had erupted violently shortly before their arrival.

Domin and Daneš in Australia

Domin and Daneš left Java (Soerabaje) on 1 December 1909 and, after stopping for a few hours in Macassar in the Celebes (on 3 December) and at Dobo in the Aroc Islands (on 7 December), proceeded to

Port Kennedy on Thursday Island in the Torres Strait. Daneš says on 9 December: '... glimpsed on the eastern horizon rocky islands of the Torres Straits. Spent the night anchored in front of a narrow passage to Thursday Island.' The following morning '... at sunrise raised anchor and around 8 am stopped at Port Kennedy on Thursday Island. Left same afternoon. Rounded Horn Island towards the south and soon saw Cape York'.

At lunch time on the same day they sailed through a narrow strait between Albany Island and the mainland. They then travelled by steamer southward along the Australian coast, arriving in Townsville on 13 December and spending the morning on Magnetic Island. On 16 December they arrived in Brisbane: 'At sunrise saw Moreton and Bribic Islands. Stopped for a short time, then were guided by a tug boat upstream up the Brisbane River'.

In Brisbane they stayed at Lennon's Hotel in George Street. Domin met both F. M. Bailey and John Shirley DSC, and he and Daneš visited Mr McDermott, a min-



Fig. 1. Signed photograph of Karel Domin. Taken in 1910 shortly after his return from Australia.



Fig. 2. John Shirley, Queensland School's Inspector, Jiri Daneš and Karel Domin. Taken during an excursion to the Tambourine Mountains in March 1910.

ister in the Queensland Government, who gave them a letter of introduction.

Having briefly seen Brisbane and environs they left on 24 December for North Queensland, travelling by the morning train to Bundaberg. Next day, Christmas Day, they travelled by rail from Bundaberg to Gladstone, arriving shortly before lunch. They then boarded the USS *Bingera* in the late afternoon and arrived in Mackay in the early evening of 26 December, having passed through the Whitsunday Passage overnight. Next morning saw them anchored in Port Denison Bay at Bowen. They left the USS *Bingera* later that day in Townsville harbour, boarded the *Kuranda* in the afternoon and arrived at Lueinda Point by sundown. They took on mail at Innisfail, after proceeding through Hinchinbrook Strait overnight, and arrived at Cairns on 28 December. In Cairns Domin and Daneš stayed at the Strand Hotel, headquarters for the next part of their journey.

Near Cairns they visited several goldfields, spending most time at Palmer Goldfields, and ascended Mt Bel-

lenden Ker to 1,579 m. New Year's Day 1910 was spent on the summit of the mountain, descent being very difficult as the wet season had set in (Chapman 1986, Domin 1910b). For some time they stayed at the Bellenden Ker Hotel at Harvey's Creek, a small settlement, using it as a base to explore the geology and vegetation of the area. It rained every day. On one of these excursions Domin got lost and did not find his way back to Harvey's Creek until late at night. On another occasion he jumped over some water to what he took to be some red sand, only to find it was *Azolla rubra* growing on a water-hole. He ended up jumping right in and the fern closed over his head.

Domin and Daneš made many excursions from Harvey's Creek, including a two day trip to the mouth of the Russel River delta. Here they met Aborigines living in the area and participated in a corroboree ('korobori') and bought ethnographic objects (Stehule 1928). On the second day of the trip they walked to Picnic Creek. After an unspecified time Daneš left Harvey's Creek and stayed some time in Nelson. One

Sunday, accompanied by an aborigine, he climbed Walsh's Pyramid. On the following Tuesday he left Nelson on horseback for Goldsborough where he stayed with a Mr Allen until Saturday when he returned to Nelson.

Around the middle of January Domin left Cairns for the aboriginal mission station of Yarrabah. Some time during the next ten days he took a boat trip from Yarrabah to Rocky Island and on to Cape Graton. Bad weather delayed Domin for ten days at Yarrabah where he studied the life of 'civilised' aborigines and made the acquaintance of their chieftain 'King John'. Domin wrote extensively on the mission and on the Aborigines of the area, making particular reference to the miserable attitude of the head of the mission, the Rev. Morrison. (Daneš & Domin 1913; Domin 1914b). On the eleventh day (28 January) the food had run out so Domin joined an emergency rescue mission to Cairns on horseback. The appalling journey took ten hours.

At last the unending rain obliged Domin and Daneš to leave together for the drier interior where they explored the limestone caves around the town of Chillagoe and the vegetation near the crater lake, Lake Eacham. They travelled via Mareeba, Tolga, Atherton, Yungaburra, Chillagoe, back to Tolga and to Yungaburra again and then on to Lake Eacham. They travelled most of the time in the rain.

Before finally leaving Cairns, Domin and Daneš visited the grand canyon and falls of the Barron River south west of Cairns, and the upper Mulgrave River. They left Cairns for Townsville on 15 February on the steamer *Murilyan* (the Cairns to Townsville railway was not built until 1923). Domin reported that:

... in the strait of water between Magnetic Island and Cape Pallarenda some ships and sailing boats set sail and in the distance shimmer like great white wings. The mainland itself is, in this direction, absolutely flat; and is indeed called 'Town-Commons' because it is so flat, and at present after the rain is budding with new green grass. Only the low hump of Mount Manypeaks still has some of its slopes covered with flowering gum forests.

While in Townsville they climbed Castle Hill near the centre of the city and made a visit to Cape Cleveland.

On the morning of Monday 21 February Domin and Daneš left Townsville and travelled by rail westward to the goldfield town of Charters Towers, where they had 'a pleasant evening' at a local club. They left by train for Hughenden, arriving on 26 February and taking accommodation at the Central Hotel. From Hughenden they made many excursions, on horseback and foot, and sometimes with an Australian tracker. A visit to Mt Walker, south of Hughenden, on foot, was much further than they had thought:

... We pressed doggedly on up through grassy plains covered in splendid grass. We streamed with sweat and our photographic equipment and botanist's knapsack seemed to get heavier. Nature seemed to be playing tricks on us. Our goal, the flat, slab-like spine of the not high Mt Walker lay as it were almost at our fingertips and yet, the longer we walked the more it seemed to elude us. Australians (even the women) are as if joined together with their horses and when they cross a seemingly endless plain they seem unable to judge what sort of distance it could be for someone on foot.

Another excursion was to the Great Dividing Range west of Pentland and the sandy watershed at Burra. Domin described this area as being 'quite romantic and wild in appearance' and as 'a low sandy mountain range with deeply cut gorges, great water-smoothed sand saddles and thick, dry acacia forests which, for the most part, grow together with barely penetrable undergrowth'. He went on to say that they travelled firstly through

eucalypt forests, then through especially unusual thickets with many yellow and red flowers and finally onto wild sandy territory which resembles, to some extent, Czechoslovak Switzerland. It does not, however, have such narrow, wild gorges and instead of pine and fur forests there are primeval thickets of tall acacias with a few scattered flowering eucalypts.

Domin and Daneš had come to an agreement with the station master at Hughenden that the train would stop at the place that would be most convenient for them to set off from, and that a train would stop at the same place on the way back to pick them up. Domin noted that west of the range the eucalypt forest gave way to the so-called 'scrub':

By scrub (pronounced *skrab*) is meant in these parts uneven thickets of small, thick shrubs which reach the maximum growth that drought resistant plant attain. For the most part an unusually high proportion of acacia species make up these thickets which do not contain the thick, grassy undergrowth of the savannah forests seen further east.

They also had a botanically fruitful excursion of two days to Pentland and its surroundings. The result of the 1898–1902 drought were still obvious, particularly between Prairie and Pentland, where there was 'not one drop of rain in three years'!

There died not just single shrubs and trees, but even whole areas of forests in different parts of the country. The area between Pentland and Prairie gave us an especially useful opportunity to study these phenomena.

The trees in the flowering eucalypt forests and the acacia shrub forests are extremely drought resistant and can stand a number of months without rain in normal circumstances. They could not, however, withstand a whole year of terrible drought, during which the last traces of water in the lowest layers of earth where these roots could barely reach, disappeared. And so, not just single trees or even clusters of trees died out, but in parts whole forests on vast areas of land had died out and had not yet revived [eight years later]. Even today their bleached roots with their faded branches protrude out of the grassy plains. These truly dead forests, dreadful and gloomy, arouse unhappy memories in the minds of everyone who comes across these hostile parts.

It is, however, amazing that some trees, and in some parts, whole forests which after eight years showed not the slightest signs of life, revived, sprouted new branches and then around the long dry branches which sadly spread up the skies, a new green crown grows. Surely a truly rare example of toughness in the plant kingdom.

During the above mentioned drought, conditions for trees and shrubs sank below the minimum required for life. These extremely drought resistant plants struggled tenaciously with death and during this time quite insignificant advantages made themselves known, so insignificant that they would surely have passed the notice of most observers. For example, in the smallest hollows,

barely perceptible to the observer, in slightly better soil or because of its physical composition, a soil which retained the moisture better, the percentage of dead trees was far smaller, and if these advantages were even slightly more noticeable, whole areas of forest in the midst of the dead eucalypt and acacia forests, were saved.

Acacias have even more modest requirements than eucalypts and because of this are tougher. In some places in eucalypt forests which had not yet been able to regenerate, various acacia species multiplied into whole forests of bushes. Thus we see how the influence of years-long drought was to make one species of plant succeed at the expense of another.

From Pentland Domin and Daneš travelled on horseback to Mt Remarkable, stopping at an old abandoned mining settlement on the way. They climbed to the top of Mt Remarkable and then chose a different route to Pentland. Another excursion from Hughenden was to Cloncurry, where rain stopped them from going further west. They then decided to go to Winton. From Winton they travelled, in a large wagon, across the grass plains and scrub via Young's Pub, where they spent the first night, Eversham, Sandy Creek, and Maneroo station before reaching Longreach late at night. It took them four days. They were only able to travel a short distance on the third day as they were stopped at several flooded creeks. On reaching Longreach they stayed at the Imperial Hotel.

From Longreach, the terminal station of the Central Railway of Queensland, they travelled to Baraldine (on 10 March) and on to Jericho where they made many plant collections. From there they travelled to Rockhampton by night train and stayed at Birch's Criterion Hotel. They then went on to Brisbane, arriving in mid March, and again staying at Lennon's Hotel. Both gave lectures to the Royal Society while in Brisbane, Domin's being on 10 April (Domin 1910a). Domin spent some days arranging his specimens while in Brisbane.

After further excursions, including one of a week's duration to the Tambourine Mountains with John Shirley (Fig. 2), a one day trip to Beech Mountain, and a final one to Stradbroke Island, Domin departed for Sydney and Melbourne in mid-April. After some time in Sydney, he then made a trip, of several days, by train to Katoomba, Wentworth Falls and the Jenolan Caves. On 21 April he arrived in Melbourne and stayed at the Menzies Hotel until 26 April. The stay cost him £4 7s 8d. He made one minor excursion to Cheltenham and visited the Royal Botanic Gardens.

Domin returns to Prague

Domin left Melbourne on the P. & O. steamer *Morea* and arrived back in Prague towards the end of May after stopovers in Adelaide, Fremantle, Colombo, Paradinya, Kandy and Aruredhapura. News of the death of King Edward VII was received on board shortly after leaving Australia and Halley's Comet could be seen clearly before sunrise. 'It glowed very brightly and its tail increased in length and width every night'.

Daneš stays in Australia

Daneš, meanwhile, set out on another long journey to western and northern Queensland. By this time the dry season had begun. On that interesting, though difficult

expedition, he studied the morphology and geology of the country, the development of its river systems, its lakes and the limestone regions of these remote parts of the continent. On 14 April he left Brisbane, visiting on his way to the north Baramba, the State Settlement for natives, west of Gympie, and the small limestone region (including the Olsen Caves) north of Rockhampton. From Rockhampton to Baraldine he went by the great Central Railway, taking 24 hours and next day travelled by coach to Aramac to the north — a journey of seven hours. At Aramac he bought two horses and rode 600 km to the north, across a territory of grass plains and acacia scrub with artesian wells and sheep and cattle farms, often sleeping under the open sky. Crossing the low watershed he explored several salt-lakes, Lakes Mueller, Bareoorah, Dunn, Galilee and Buchanan, some of them without an outlet, as well as their confluences, the creeks and fresh-water springs, studying all the while the life of the white ranchers. To reach Fleetwood Station he had to wade across Lake Galilee for 5 km. Daneš followed the Cape River from Blair Athol to Pentland on the Northern Railway, reaching there on 11 May.

He spent three days in Hughenden and wrote that he was quite satisfied with his three weeks solo journey. From Hughenden he went east again to Prairie where he was the guest of Mr Chisolm on his property, The Plains. While there he took a three day circular trip to Galah Creek Station, Wougalei Station and Glendower Station and arrived back at The Plains by moonlight.

Next day he travelled to Charters Towers and took a trip to The Rocks on the Burdekin River. He then caught another train and travelled onto Cloncurry, the westernmost station. From Cloncurry Daneš continued by mail-coach to Camooweal, a frontier-town of Queensland on the border with the Northern Territory. The trip took five days. He stayed overnight in Camooweal and spent the next three days riding around the countryside with Mr Glissen, manager of Rocklands Station. He spent the weekend studying the Nowranie Cave 19 km southwest of Camooweal.

Having finished these studies he went by mail-coach northeastwards for four days to Gregory Downs. Daneš spent one day at Gregory Downs and then hired a buggy for a six day excursion. He covered about 60 km on the first day and on the second day camped near Mended Hill, not far from the Lawn Hill mines. On the third day he travelled past Lawn Hill Station and went about 20 km further north. On the fourth day he travelled south through a wide valley which was later named Daneš Valley by Lionel C. Ball in his book *The Burketown Mineralfield*.² On the sixth day Daneš returned to Gregory Downs.

Next day he boarded the mail-coach and went on to Burketown, a mining town on the Gulf of Carpentaria. From Burketown he travelled east through the lowlands bordering the gulf, again by mail-coach, crossing the lower Flinders to Normanton, a trip of three days. He continued by rail to Croydon, by mail-coach to Charleston by way of Georgetown and by the Northern Railway to Almaden where he stayed overnight before catching another train back to Cairns, arriving on 1 July. From Cairns he took a one day trip to Nelson and then spent a few days based at Kuranda, exploring in detail the canyon and falls of the Barron

River. On 9 July he departed from Cairns on the steamer *Murilyan* for Brisbane, where he stayed for ten days and gave two scientific lectures. He then paid brief visits to Sydney, the limestone region of the Jenolan Caves, Melbourne, and Adelaide (travelling by train on each occasion). In August Daneš went by P. & O. steamer *Morea* to Fremantle and Perth. For a fortnight he explored the limestone region near Yallingup, south of Perth, and the interior goldfields of Coolgardie, Kalgoorlie and Leonora. Daneš then returned to Europe, leaving Fremantle on 5 August aboard the P. & O. steamer *Marmora*, and travelling by way of Ceylon, Aden, Port Said and Trieste. He arrived in Prague on 11 October 1910.

Domin and Daneš — their later lives

In 1926, at the age of 34, Domin became Professor of Botany at the Karlovy University in Prague. He retained the position until the University's closure in 1939. When it reopened in 1945 he relinquished the chair and later became the University's chaneellor. Domin died in Prague in 1953, aged 71. Throughout his life he was a prolific writer, publishing 889 papers between 1901 and 1949. For 22 of those years, from 1923 to 1944, he averaged over 27 papers per year, or more than one per fortnight.

Daneš was appointed Assistant Professor of the same University in 1912. He came back to Australia in 1921 and served a period of three years as his country's Consul to Australia in Sydney.

Most of Domin's collections are housed at the Department of Botany, National Museum in Prague (PR). His Australian collections are housed separately in the order of Domin 1914–1915 and Domin 1921–1929. Daneš Australian collections are few, and mainly cover those areas not covered by Domin. They are housed with the Domin collections at PR, or separately at the university herbarium (PRC).

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Notes

1. All quotations in this paper are passages, translated in to English, from Daneš and Domin (1913).
2. I have not seen this book and its date of publication has not been ascertained. It is referred to by Daneš and a copy apparently exists in the Prague University Library.

References

Includes some major references which are relevant to Domin's botanical work in Australia but are not necessarily referred to in the text.

- Chapman, A. D. (1986). Karl Domin's visit to Mt Bellenden Ker (1909–1910). *Austral. Syst. Bot. Soc. Newsletter* 48: 1–8.
- Daneš, J. V. & Domin, K. (1912). *Dvojím rájem. Díl první: Cesta na Javu a po Jávě*. [= Through a double paradise: the first road on Java & after Java]. (J. Otto: Praha). pp. 1–540.
- Daneš, J. V. & Domin, K. (1913). *Dvojím rájem. Díl druhý: Cesta po Australia na Ceylon*. [= Through a double paradise — the second part — the trip from Australia to Ceylon]. (J. Otto: Praha). pp. 541–782.
- Domin, K. (1910a). Queensland's plant associations. Some problems of Queensland's botanogeography. *Proc. Roy. Soc. Queensland* 23: 57–74.
- Domin, K. (1910b). Nový rok na nejvyšším vrcholku tropické Australie. [= New Year on the highest mountain in tropical Australia]. *Národní Listy* No. 92, Sunday entertainment edition, pp. 9–10.
- Domin, K. (1914a). O genezi austrálské květeny a fytogeograficém roztrídění Australie. [= Origins of the Australian flora and their phytogeographical dispersal in Australia]. *Věstník V. Sjezdu Českých přírodovědcův a lékařů v Praze*. 1914: 350.
- Domin, K. (1914b). Léčivé rostliny domorodých narodů jižní Asie a Australie. [= Medicinal plants from the aborigines of southern Asia and Australia]. *Sbírký Rozprav z oboru lékařnictví číslo* 82: 1–3.
- Domin, K. (1914–1915). Beiträge zur Flora und Pflanzengeographie Australiens I. Teil, 1. Abt. Pteridophyta 1913 [publ. 1914]; 1. Teil, 2. Abt. Embryophyta siphonogama, pars. I.: Gymnospermae, Monocotyledonae 1915. *Biblioth. Bot.* 85: 1–554.
- Domin, K. (1921–1929). Beiträge zur Flora und Pflanzengeographie Australiens. I. Teil, 3. Abt. Embryophyta siphonogama, pars II. Dicotyledoneae 1921, 1925–1929. *Biblioth. Bot.* 89: 1–763.
- Gibbs, L. S. (1917). A contribution to the phyto-geography of Bellenden-Ker. *J. Bot.* 55: 297–310.
- Henderson, R. J. F. (1984). Bibliography of Karel Domin's beitrage of Australian plants. *Taxon* 33: 673–679.
- Maeku, J. (1931). Naše léčivé rostliny a profesor Dr. Karel Domin. *Preslia* 10: 101–103.
- McGillivray, D. J. (1973). Domin's 'Beiträge zur Flora und Pflanzengeographie Australiens'. *Contr. New South Wales Natl Herb.* 4: 366–368.
- Novak, F. A. (1931). Prof. Dr. Karel Domin pádesátníkem. *Preslia* 10: 5–41.
- Stěhule, J. (1928). Cesty Prof. Dra J. V. Daneše. — The journeys of Professor J. V. Daneš. *Zylátní otisk ze Sborníka Čsl. společnosti zeměpisné v Praze* 34: 1–34.